TITLE OF THE INVENTION

Portable PC Keyboard and Mouse Tray

CROSS REFERENCE TO RELATED APPLICATIONS

Not Applicable

STATEMENT REGARDING FEDERALLY SPONSERED RESEARCH OR DEVELOPMENT

Not Applicable

INCORPORATION – BY – REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC

Not Applicable

REFERENCE TO A MICROFICHE APPENDIX

Not Applicable

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention relates to a device used to provide comfortable support of a laptop computer or pc keyboard and mouse on the lap of the user thereof, and more particularly to this device which is universally adjustable to support a laptop computer or pc keyboard and mouse in an optimum position for individual users without removal from the lap of the user, disassembly of the product or manipulation of fasteners, panels, clips, hinges or additional components or supports.

DESCRIPTION OF RELATED ART

With the spread and popularity of personal and laptop computers, it is nearly impossible for consumers to be without them. More and more consumers are finding themselves in extremely uncomfortable positions when working with these laptop or personal computers when traveling resting or working due to a lack of an uninhibited, unrestrictive workstation device.

All computers and laptops are equipped with a needed keyboard and mouse. There is not a device available that provides infinite adjustments in tilt and angles without the use of fasteners, panels, clips, hinges or additional components or supports to obtain individual settings for comfort. Furthermore, there are not any devices that can be adjusted to obtain the optimal position for each individual user without the removal of the device from the users lap.

Many laptop users will experience discomfort when using their computers due to the need to keep their legs together to support the device, the heat generated from the

laptop itself, the resulting angle of the laptop relative to the users' hands and wrists due to the height of the chair being used, proximity of the users eyes to the monitor. Many times a user will elevate their lap by raising their legs with their toes or crossing their legs in an effort to raise the laptop to the proper position, or by slouching or extending their legs outward in an effort to lower the laptop to the proper position, thereby adding more discomfort and possible resulting in misalignment of the wrists and hands which, if gone uncorrected, may lead to injury.

This invention, which relates to the attachment of a form fitting interchangeable cushion to a portable workstation designed to hold and secure a computer and mouse or laptop computer on the users lap, can be adjusted to provide the optimum distance to a computer monitor, fit, tilt and angle while seated in a natural, ergonomically correct position without removal of the invention or laptop, without manipulation of fasteners, panels, clips, or hinges or the use of additional components or supports. This invention provides an unlimited number of angles of tilt for individual comfort and posture improvement which will help relieve fatigue in the leg and back areas of the user due to balancing and supporting the laptop or keyboard and mouse as well as providing insulation from the heat generated by laptop computers. When this device is employed, the wrists and hands can be positioned in an ergonomically correct position reducing the likelihood of strain and serious injury. This device can be adjusted without removal from the users lap or removal of the computer or keyboard and mouse. A user can position themselves the proper distance from a computer monitor while using this device without placing undue stress on their shoulder and arm when reaching for the keyboard and mouse.

Several currently available products attempt to address these problems and will now be described but it must be noted that these products are not as adaptable nor do they address all of the problems described above.

One product, "Laptop Computer Support", Borke US 6,305,352 B1, describes a system of panels, clips and hinges to compensate for variations in the sitting position of users to ensure a horizontal keyboard. It is clear, however, that this product has six (6) predefined increments of adjustments and can not be adjusted for lap heights that fall between the panel sizes. The "Laptop Computer Support" is adjusted by a series of panels, hinges and clips must be manipulated. Due to the predetermined panel heights, not all users will find the optimum positioning of their laptop using this device resulting in the behavior noted in the previous paragraphs which this invention addresses. Furthermore, if a sitting position is altered, the "Laptop Computer Support" must be adjusted using a trial and error method consisting of dismounted the laptop from the "Laptop Computer Support", rearranging the panels, hinges and clips and then replacing the laptop onto the "Laptop Computer Support". This procedure makes it unlikely that users will make any adjustments at all but will continue to manipulate their legs, toes, and backs as described in the previous paragraphs in an attempt to achieve an optimal position. Clearly, this device is limited in is ability to adjust for all lap heights and is cumbersome and time consuming to adjust. Due to the trial and error method of adjustment designed into this device, more than one attempt may be needed to find a comfortable position and not all lap heights will be addressed optimally. In addition, no reference to proximity of the monitor is addressed.

Dutra, Jr. US 5,553 824, "Adjustable length Laptop Computer tray Assembly", is described as an adjustable length workstation. It will support a laptop or keyboard but remains rigid and clearly lacks the tilt and angle adjustments needed to help correct posture and relieve the symptoms described previously such as slouching, raising or lowering of the legs, misalignment of the wrists and hands and eye strain due to proximity of the monitor

The "Pilot's Desk" , James Flemming US 5,542,360 –, is shown as permanently attaching indirectly to the seat rails of an aircraft chair. It does not have any accommodation for laptop computer use, keyboard use, is rigid in construction, is not adjustable for height, tilt, comfort or placement of the wrists and hands.

The "Lapboard/Patient Restraint Device", Borgardt US 5,310,244 –, is described as a device with a flat surface that is mounted to the arms of a medical wheel chair. It is fixed into position with straps to the rear of the chair, holding the board flat to the arms of the chair. It is clear that this device is not portable and can not be adjusted for height, tilt or angle and must be attached to the chair.

The "Interlocking corner Structure For Siding, Bukowski, US 4,864,787 – Describes a locking method for assembling lapboard vinyl siding and is not intended nor can function as a Portable PC keyboard and mouse tray.

Patent number 6,158,359 describes a workstation that attaches to the ledge of a desk by use of clamps. This device requires a user to reach forward to use the keyboard and mouse, no longer allowing for the ergonomic positioning of the arm, shoulder, wrist and hands. This position places a strain on the shoulder which may result in injury over

time. This allows for no tilt or height adjustment. Clearly, this type device does not demonstrate the concerns noted previously.

What is needed is a Portable PC Keyboard and Mouse Tray that has an infinite adjustment mechanism to accommodate different lap heights based on the unique size, shape, sitting position and location of the user allowing for optimal positioning of the laptop or keyboard to help eliminate leg, toe, back, wrist, hand and eye strain as noted in the previous paragraphs. Furthermore, this device must be able to be adjusted without removal of the laptop or keyboard, must be portable and convenient to use.

BRIEF SUMMERY OF THE INVENTION

In accordance of the present invention, a portable keyboard and mouse or laptop workstation comprised of a solid piece of wood with recessed areas to accommodate a keyboard and mouse or laptop computer having an attachment of an interchangeable form fitting cushion which can be adjusted for the user specific optimum tilt and comfort by form fitting to the users lap. The device may be of any size as to support a wide range of laptops, keyboards and mouse items. For convenience in the ensuing description, general reference will be made to a laptop computer support. The invention is highly desirable in that it provides a comfortable, portable, infinitely adjustable workstation that addresses the concerns of heat, back, leg, toe, arm, wrist, hand, shoulder and eye strain. The invention can provide the optimal position when used in any sitting position regardless of chair height, lap height and tilt. It is lightweight and pleasing to look at. By positioning the filled bag, the user can adjust the tilt and position the workstation to greatly reduce

shoulder, wrist and posture strain without disassembly of the workstation or removal of the equipment and help provide correct proximity from the computer monitor as a result of its portability

One embodiment of the Portable PC Keyboard and Mouse Tray is an attached interchangeable filled bag, or cushion, on the underside of the board which provides the stability with an infinite amount of adjustability that is needed for individual comfort. This filled bag is malleable and will take the contour of the users lap. It can adjusted for tilt, height and angle by applying gentle pressure while positing the device as desired. The opportunity for wrist, hand, shoulder, leg, toe and back strain demonstrated in the above sections are greatly reduced by allowing the user to place the laptop or keyboard and mouse comfortably on their lap in an ergonomically correct position.

This embodiment further includes a strip of hook and loop fastening material, such as Velcro, which allows for the filled bag to be removed for cleaning or replacement with another larger in size or of a different color or pattern. This allows the user to further customize this device to suit their needs.

In addition to the objects and advantages of the "Portable Keyboard and Mouse or Laptop Workstation" described in my above patent, several objects and advantages of the present patent are to:

1. Provide a stable workstation to be used on any surface, including a person's lap, and still offer the advantage of obtaining a comfortable angle to help reduce wrist, hand shoulder and posture strain by achieving a custom contour with the described malleable interchangeable cushion when attached to the workstation.

2. Provide a stable workstation for laptop computers for use on any surface, including a person's lap, and still offer the advantage of obtaining a comfortable angle to help reduce wrist, hand and shoulder strain and posture strain by achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation.

3. Provide a stable work station that can help reduce eye strain by enabling the user to move as far from the computer screen as needed while providing a custom contour with the present invention's interchangeable cushion when attached to the workstation.

4. Provide a stable workstation that helps the user to maintain proper sitting posture by eliminating the need to reach for the keyboard or mouse while providing a custom contour with the present invention's interchangeable cushion when attached to the workstation.

5. Provide the proper workstation for left handed users by situating the mouse area to the left of the user and still offer the advantage of obtaining a comfortable angle to help reduce wrist, hand and shoulder strain and posture strain by achieving a custom contour with the present invention's interchangeable cushion when attached to the workstation.

6. Provide a workstation for infra-red keyboard or infra-red laptop users that is truly portable and can be used in any comfortable position whether on the floor, couch, bed or chair by using the present inventions interchangeable cushion when attached to the workstation.

7. Provide a workstation that will match any room décor by offering a variety of wood tones and fabric choices to meet the individuals' tastes and desires with the present inventions interchangeable cushion when attached to the workstation.

8. Provide a portable workstation that can be put away without having to remove cumbersome clamps, cables, stands, tripods or other connecting devices.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

FIG. 1A is a top plan view of one embodiment of the present invention in its ready position.

FIG. 1B is a side view of one embodiment of the present invention in its ready position.

FIG. 2A is a back view of one embodiment of the present invention in its ready position.

FIG. 2B is a cross section view of the malleable interchangeable cushion in its ready position.

DETAILED DESCRIPTION OF THE INVENTION

The invention will now be described in its several contemplated embodiments with reference to the drawings.

FIG. 1A shows the portable wood work station 4 surface of the present invention with a recessed area 19.50" long x 8.50" high x 0.50" deep for a keyboard 1 and an area 8.50" long x 8.50" high x 0.25" deep for the mouse 2 separated by a 0.625" wide dividing wall 5. As can be seen, this configuration provides an area to help maintain the keyboard and mouse on the workstation when the user places the present invention on their lap or other surface, tilting and positioning the invention as necessary to achieve a custom fit. In another embodiment of this present invention, the dividing wall 5 would be removed making one area out of the recessed areas 1 and 2. Only the length of the workstation may change in other embodiments of the present invention.

FIG. 1B shows a side view of all embodiments of this present invention. One can see the workstation 4 has the malleable interchangeable cushion 6 attached to it with hook and loop fastener 3 such as Velcro brand hook and loop fastener. One can see in FIG. 1B that there are no cumbersome clamps, cables, stands, tripods or other connecting devices needed to be removed in order to remove or reposition the workstation. The malleable interchangeable cushion can be adjusted for tilt, height and angle by applying gentle pressure while positioning the device as desired without the removal of the lap top, keyboard, mouse or other items commonly found on workstations.

FIG.2A shows a back view of all embodiments of the malleable interchangeable cushion 6 and the hook and loop fastener 3. One can see that the malleable interchangeable cushion 6 is wider at the bottom to provide ample support for the work station. Other embodiments of the malleable interchangeable cushion vary in length only while retaining the shown shape.

FIG. 2B Shows the Outer Shell Material 7, Liner 8, and Fill 9 that make up the malleable Interchangeable Cushion FIG. 2A 6. The Outer Shell Material 7 may be provided in any available cloth material. The Liner 8 is assembled under the Outer Shell Material 7 and sewn into the shape depicted in FIG. 2A to form the Interchangeable Cushion FIG. 2A6. The Fill FIG 2B 9 is added to the Interchangeable Cushion FIG. 2A6 until it takes the shape depicted in FIG. 1B. The Hook and Loop fastener FIG. 2A. 3 is applied to the Interchangeable Cushion FIG 1B 6 and the workstation FIG. 1B 4in order to enable assembly of the Interchangeable Cushion FIG.2A 6 to the workstation FIG. 1B 4.

As one can see from FIG. 1A, FIG. 1B, FIG. 2A and FIG. 2B. This present invention offers simple construction which provide a stable workstation to be used on any surface, including a person's lap, and still offer the advantage of helping to reduce wrist, hand, shoulder, eye and posture strain by achieving a custom contour to the users lap with the described malleable interchangeable cushion when attached to the workstation. It is clear from these figures that a comfortable angle to help reduce wrist, hand shoulder and posture strain can be achieved by applying gentle pressure while positioning the device as desired without the removal of the lap top, keyboard, mouse or other items commonly

found on workstations. It is also evident from these figures that the lack of clamps, stands, cables, tripods or other mounting devices allow the users to position themselves at any comfortable distance from the computer, desktop, table or other surfaces typically associated with computer use.

Also evident from the figures is the lack of cumbersome clamps, cables, stands, tripods or other connecting devices needing to be removed if the user decides to put away the present invention.